

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF PUBLIC INSTRUCTION

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# PLAYGROUND MANUAL



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DEPARTMENT OF PUBLIC INSTRUCTION  
Harrisburg

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JOHN A. H. KEITH

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### Acknowledgment

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## FOREWORD

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Play as a medium for the development of the child is universally recognized. The benefits, however, of this important activity are frequently not developed because of a lack of specific knowledge of how to use to the best possible advantage the recreational periods of the school day.

This bulletin has been prepared by the members of the Health Education Staff of this Department. It is intended not only to call attention to the importance of play, but also to suggest to teachers and school officials definite solutions of specific problems arising in the practical administration of a school program in this field.

A study of the recess period and the part it should play in the school program will serve to stress the importance and possibilities of this frequently neglected portion of the school day. Suggestive programs are offered to give a clearer idea of the activities to be conducted and the way to administer them. The discussion of the various types of playgrounds includes suggestive material relative to organization, administration, and equipment, together with drawings showing preferable arrangement of equipment and diagrams of essential games.

The material of this bulletin is submitted as frankly experimental in character, and constructive criticisms are requested.

JOHN A. H. KEITH,  
*Superintendent of Public Instruction.*

## CONTENTS

	Page
Playground Manual .....	7
The Home Playground .....	9
The Block Playground .....	10
School and Municipal Playgrounds .....	13
Baseball .....	31
Playground Baseball .....	32
Baseball .....	33
Volley Ball Court .....	34
Tennis Courts .....	35
Running Track .....	36
Suggested Plan of Apparatus and Game Courts for Playground .....	37
Suggested Plan for a High School Athletic Field .....	38
Morning Program .....	40
Afternoon Program .....	42
Play in Rural Schools .....	50
Conclusion .....	50
Selected References .....	51
Manufacturers of Playground Apparatus, Athletic Equipment and Supplies .....	51

## PLAYGROUND MANUAL

"Play must everywhere have served some great purpose or it would not everywhere have survived." This statement of Dr. Curtis sums up the historical significance of play. The types of play vary in complexity and organization with the stage of advancement of the civilization of a people. Play is regarded by many as something frivolous and childish, synonymous with "fooling" and therefore an activity not worthwhile. Fortunately this idea is rapidly disappearing.

The theories advanced in attempts to answer the question of what play is are varied. Chief among these theories are: that play is due to surplus energy,—advocated by Richter, Schiller and Spencer; that play originates because of the need for recreation,—advanced by Lazarus; that the origin of play is instinct,—upheld by Groos; that play is the result of inherited memory,—advocated by Patrick; and that play is growth,—maintained by Lee. While these explanations of play differ in important respects, each has contributed to a better understanding of this special phase of life. Educators now consider that play is essential for the natural physical, mental and moral growth and development of the child.

Play develops physical efficiency, improves the carriage of the body, stimulates the functioning of the vital organs and promotes healthy sex development. In play such character traits as self-confidence, courage, obedience, alertness, response, consideration of others and good sportsmanship are developed. The value of play as an integral part of our educational system is beginning to receive the recognition it deserves.

It is essential, before attempting to form plans for the promotion of play, that we understand in a general way the periods of the development of play in the life of a child. Before a child begins his school life, practically all of his waking hours are devoted to physical activity. He is an excellent example of perpetual motion. This large amount of exercise is necessary for his growth and development. By means of it, he is not only preserving his health and promoting his physical development, but he is also obtaining mental, moral and social training.

During the first few months after birth, the child's activities are eating, growing, and moving. Movement is essential—the more active he is the better; he is practically never still except in sleep.

Next comes the imitative stage of life. In this stage, before the child enters school, the elements of play are themselves interesting.



Organized games have no part in his life. He takes most pleasure in playing with toys, blocks or dolls.

During the second period, from the age of six to that of ten or eleven, the elementary school age, the child indulges in individual competition. Joseph Lee calls this the "Big Injun" stage. There is need for leadership. Intellectual powers are strengthening, and a spirit of emulation rules the games. Tag games are illustrative of this period. It is the age of short, vigorous games with frequent rests. Then with great rapidity he passes through several stages which usually overlap: that of the savage, whence comes his delight in throwing, striking, fighting; the hunter, with intense desire to chase, to grasp and to capture; the nomad, with increasing love of animal pets; the agriculturist, with delight in plucking flowers and gardening; and last, he enters the tribal stage, where for the first time cooperation and team play are marked.

The period from thirteen upward is a period of team development. Interests of this period center about baseball, football, and the like. Boys and girls often spontaneously organize themselves into gangs and clubs at this time, and all such activities tend toward the development of a new social spirit.

While engaged in play, the child is learning the code of the playground. He finds that laziness will not be tolerated, and that only his best efforts will please those merciless judges, his playmates. He learns that public opinion is against cheating, and that what is fair for him is fair also for the others. At the same time he is acquiring coordination of mind and body.

While there is much to be said of the value of play in the development of mental power,—alertness, rapid thinking, and quick decisions being necessary in a good game—there is still more to be said for the moral value of play. Where there are dishonesty and selfishness, play cannot continue. The rules of clean sport are the precepts of right living. Many of the phrases we use daily to designate honest dealing come from games, such as "a square deal" and "fair play." The chief benefit to be derived from play, important as is its mental and moral value, lies in its value as physical education. A game that brings into play all the muscles of the body without the player being conscious that he is developing his muscles, is an ideal form of exercise.

Dr. Woods Hutchinson says, "The modern city child has lost his most precious birthright—the back yard." So we find that a great many cities and towns of our country have voted large sums of money to install playgrounds where they are most needed, and wonderful results have been accomplished. Any real progress in physical unbuilding necessitates the acquiring of play-grounds for places to play, and the purchase of material with which to play.



These playgrounds are of four general types: the home or back yard playground, the block or community playground, the school playground and the municipal playground.



ILLUSTRATION 1. SLIDING DOWN THE CELLAR DOOR, IMPROVED.

## THE HOME PLAYGROUND

The home or back yard playground should be provided, so far as is feasible, at every home where there are children under the age of twelve years. It needs very simple equipment, such as a sand box, horizontal bar, see-saw, slides, and swing, so that little children will receive proper physical and mental development through play out-of-doors under the immediate supervision of the mother. This often means destruction of some lawn, but every parent must face squarely the issue whether he prefers a lawn or healthy, well-poised, happy children. (Illustration 2)



ILLUSTRATION 2. BACKYARD AND BLOCK PLAYGROUNDS REQUIRE SMALL SPACE.

### THE BLOCK PLAYGROUND

The block or community playground is a little larger in area. Even if it is only one city lot—it is of value. Here the equipment should be the same as for the back yard playground, with the addition of equipment for playing quoits, playground baseball, volley ball, and similar games. It should have some supervision so that ring games and contests may be properly organized.

This plan might be carried out in almost any neighborhood. Usually there are a few square feet of unused ground that can be converted into use for the children. It may mean the tearing down of an old "line fence" and the remodeling of back yards. This will not only provide opportunity for proper development of play in favorable environment but it will also be a means of making the home and its surroundings more attractive to the child.

The following suggestions may be of assistance in carrying out the plan. A meeting should be called to which the parents in the block are invited to discuss the project. Consider especially the amount of available space and the use which could be made of it. The space may be small, but if each family would donate one or more pieces of apparatus or some play material suited to the space and allow the children of the block the privilege of using it, it would help solve the problem of keeping children near home and it would provide wholesome recreation. (Illustration 3)



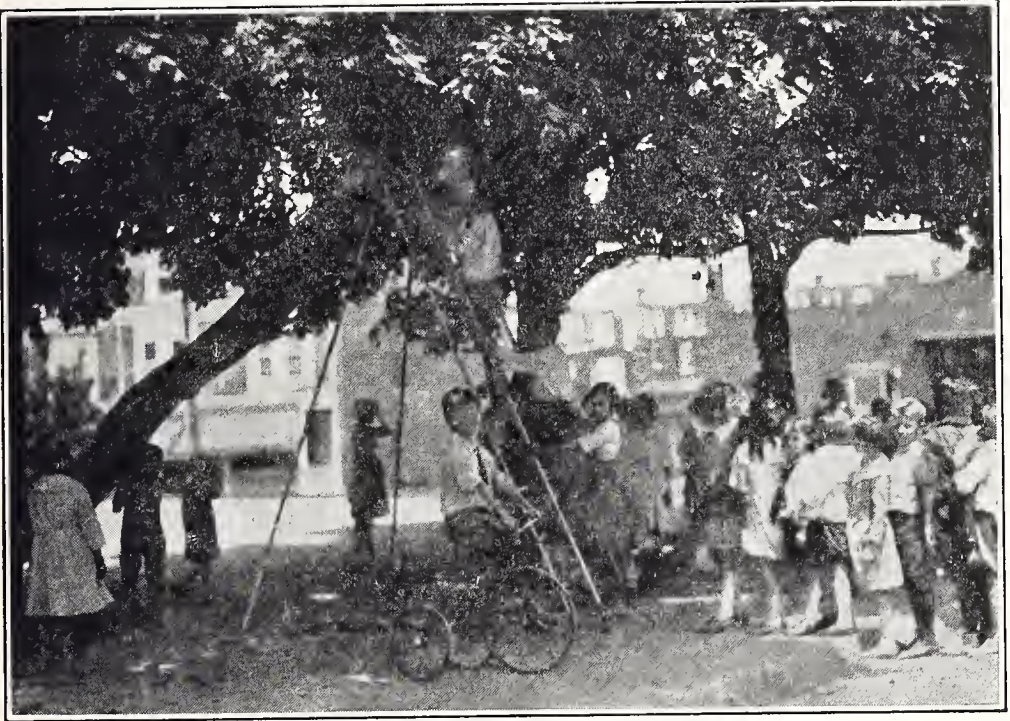


ILLUSTRATION 3. THE PLAYGROUND SLIDE IS VERY POPULAR

A sand bin may be built in some shady spot for the amusement of the little ones. This may be 6 ft. by 8 ft. by 1 ft. or, where space is limited, the size can easily be adapted to almost any space and it is a delight at any time for the younger children.

If space permits, a tennis court or volley ball court may be constructed for the older boys and girls. This provides excellent amusement and develops a friendly spirit of competition. Baskets for basketball would also find favor, these may be used for practice shooting if there is not sufficient space for a court. Stakes can be driven for quoits, and horseshoes used in place of the regular quoit. Croquet is an interesting game not only for children, but for adults as well. (Illustration 4)

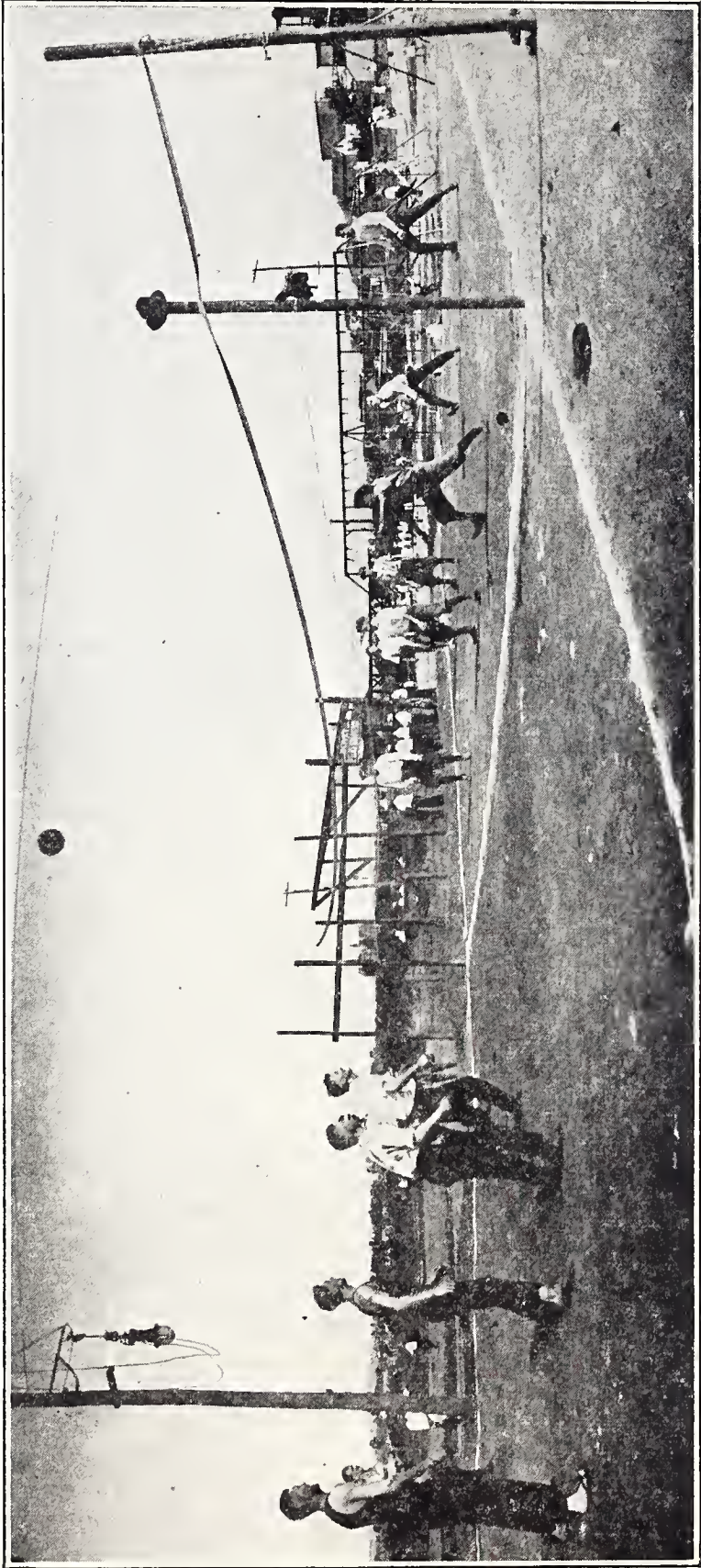


ILLUSTRATION 4. COMMUNITY PLAYGROUNDS PROVIDE RECREATION FOR THE OLDER BOYS.



For the rainy day, the hardest time of all for children, a tent might be put up outdoors, or possibly an unusual part of a garage or storehouse can be converted into a play house. To avoid dispute and trouble it would be advisable for each child to own his or her own movable playthings, such as picture books, dolls, carriages, dishes, pipes for soap bubbles, tools, and other playthings that can be carried to and from the homes.

If there are not many shade trees to protect the children from the sun, an extension roof might be built from a garage or even constructed on separate posts, or awnings might be put up, with seats or benches built underneath. Grape arbors afford excellent shade.

The age of the children, and the location of the space available, should be considered before selecting the apparatus adapted to conditions. It would be wiser to have a few pieces well made and properly arranged, than a great many carelessly made and crowded together.

If parents would cooperate and not leave too much of the burden on one family, allowing each household to have a share in the materialization of plans, it would not only help parents solve the problem of the proper care and training of their children, but would also serve as a means of uniting the neighborhood in friendliness and good will.

## SCHOOL AND MUNICIPAL PLAYGROUNDS

**SITE FOR PLAYGROUND.** The location of the playground is extremely important, as it may mean the success or failure of the work. It must be centrally located for those who are to use it. Children will not go great distances to the playground. Children below the age of six years should not be made to travel more than a quarter of a mile. A half mile is usually the extreme limit that young children should go to reach this center. Therefore, if located too far away or at an inaccessible place, it will be poorly attended. As a rule, schools are centrally located and the school ground should be used for this purpose, if possible. If the school yard cannot be used, then some vacant lot must be cleared and made attractive. Accessibility to a bathing beach or "swimmin' hole" is a great asset. (Illustration 5)



ILLUSTRATION 5. ACCESS TO A "SWIMMIN' HOLE" IS ESSENTIAL.

Playgrounds should also be located in the sections of the city where there is the greatest amount of juvenile crime. The presence of a properly supervised playground diminishes juvenile crime markedly, as it offers a proper outlet for youthful energies, and gives boys and girls something clean and law-abiding to think about.

Permanence of location must be considered, for if the site is moved each year considerable expense will be involved in moving apparatus from the old site to the new. The influence of cumulative interest is also lost to the playground which moves from place to place.

The school yard has been one of the least utilized of our educational resources. Much of it has been kept in lawn,—growing grass instead of improving children. If the school yard is to serve as a playground, this new use will create a new condition, which warrants far greater expenditure and care than the old-time yard ever received. It is unfortunate that any school needs to be built in the city, because it is often impossible to get enough land for baseball and other games requiring a large area. These games require nearly two acres of clear space. However, the introduction of such games as volley ball, basketball, playground baseball, dodge ball, and tether ball has helped to relieve the almost impossible condition of twenty years ago. It is now possible on a block of ground, if the block is of fair size and the school is not too large, to have worth while play activities. (Illustration 6)





ILLUSTRATION 6. VOLLEY BALL IS A GAME OF GROWING POPULARITY IN WHICH BOTH SEXES MAY COMPETE.

**SIZE.** Various standards have been proposed for city elementary schools. The Board of Education of England requires thirty square feet of playground for each child. This would place a child every five feet over the school yard. The regulations of several of our states require that no grade school building be constructed on a site of less than two acres, and that fifty square feet must be provided for each child, and that wherever possible one hundred square feet be provided.

For most new schools, in the smaller cities at least, there is at present a workable standard, namely, one block for each school. This is quite generally adopted in the Middle West and in the South. The blocks of many cities are two acres or less in size, while those in other cities, as in Salt Lake City, may be as much as ten acres. It can be said in general that a block of less than two acres puts all play at a disadvantage. Such blocks are scarcely large enough for baseball when they are vacant. In some cities the established policy of the board of education is to provide for each school a double block site, which is approximately 300 feet by 550 to 600 feet. This gives ample space for all desired activities provided the building be placed at one edge or in a corner of the site. It is often difficult, and sometimes impossible, under existing conditions to secure a full block of ground for a school. In closely built cities there are few entire blocks without buildings, but sites should be selected as far ahead as possible, anticipating the city's growth. In crowded cities, playground areas are sometimes provided on the roofs of the school buildings.

In sections where a playground is maintained, it has been found that one-fourth of the child population between the ages of five and fifteen years is using the playground constantly. This means that in order to provide adequate space on the basis of 100 square feet per child playing, at least 25 square feet per child must be provided. Where playgrounds are conducted at school grounds, a good standard is to provide 25 square feet of outdoor space for each single seat in the building.

The practice of providing a certain number of square feet per child might not be adequate where the school population is very small, for example, one might have 100 square feet per child and still not have sufficient playground space for certain games, as baseball, because of the large amount of space such games require.

The following standards, set by the United States Bureau of Education are a safe guide in securing sufficient playground area :

<i>School</i>	<i>Number of acres</i>	<i>Approximate number of pupils</i>
Elementary	3 to 5	800
Junior High School	6 to 10	1200
Senior High School	6 to 21	1800

**SANITATION.** The site of the playground must be sanitary. It must not be near pools of stagnant water, barns or other places of filth, or smoky factories. It should be free from all rubbish and kept so.

**DRAINAGE.** The site of the playground should be ground which will drain quickly after rains. One of the best methods of drainage is to have the whole area of the playground slightly convex, placing catch basins, or open drains, which carry off the water at the border or outer edge of the playground. The character of the soil and surfacing must be considered in planning the drainage. A slope of 1 foot to 100 feet is generally satisfactory. If the ground has a slight natural slope in one general direction, all necessary drainage is secured without trouble.

**GRADING AND SURFACING.** In hilly cities, school sites are often selected that are very uneven. Such sites are usually cheaper in the beginning, but are nearly always more expensive in the end than sites that are nearly level. The rounded hill offers a conspicuous position for a school building, but the hill top is useless as a school playground, as there are few games that can be played on a hill top or side. The grading required to make it usable will probably cost as much as the site, or more.

A level surface is necessary. Therefore, if the ground be rough or sloping, or filled with small mounds or stumps, rocks, etc., the first thing to do is to remove obstructions and to make a smooth surface.

Trees which interfere with the play area used for games, should be removed.

Where the ground is large in proportion to the number using it, the best surfacing is sod or turf. It is possible to have a turf playground kept in fairly good condition. This is practically impossible in most city playgrounds.

Cinders are used extensively in some places, but they are rough and cut the shoes and clothing if a child falls, and also mean constant bruises and cuts to the child himself. At best, cinders make a shifty surface, are hot in summer and unattractive in appearance.

Many city school yards have been surfaced with brick. This is very undesirable as the brick is hard and unyielding, resulting in shocks to the nervous system at every step or jump. Most brick yards are more or less uneven and contain soft bricks where the water stands after a rain. In frosty weather the bricks hold the frost, making the surface difficult to run or walk over. They are hard on the clothing, shoes, and play material.

Cement is better than brick for surfacing as it is not so slippery or uneven, and it is easier to run over. However, it is dusty unless treated. Many of the same objections apply to concrete as to brick.

Gravel and broken stones have both been used in surfacing school yards and playgrounds. This surface is generally unsuitable. A yard of this kind will wear out a pair of shoes in a few weeks; baseballs and volley balls will get ragged with a day's wear. To fall on these sharpened pebbles means a serious bruise, and as many of the children go barefoot in the summer, surfacing of this kind will mean constant bruises on the feet.

Torpedo gravel (the small, round gravel) makes a fairly satisfactory surface for play, and when mixed with clay it is excellent from every viewpoint. This surface is made by sprinkling about one-half inch of gravel upon a clay or loam subsoil and rolling; or it may be mixed with clay in the proportion of about one to four or six and spread on smoothly and rolled.

Gravel, sand, and cinders have the great advantage that they dry off very rapidly after a rain, so that the ground can be used practically all of the time. A clay or loam soil gets muddy very easily and does not dry so quickly when wet, it is sticky and very slippery. It has the advantage, however, that when dry it makes an excellent playing surface.

A mixture of clay, loam, and cinders is very satisfactory. Three or four inches of cinders, well packed and covered with one inch of cinders which have been run through a half-inch screen, will make a hard surface over a sandy bottom. If equal parts of screened cinders and good clay are mixed together, dampened, spread one inch thick over a layer of coarse cinders and well rolled, an ideal playing surface



will be made for the athletic field, the running track or any part of the playground. Such a mixture packs well, is springy, does not get dusty in dry weather, and can be played on in the rain.

A playground surface should be durable, sufficiently porous to prevent the collection of moisture, non-abrasive, clean, firm and dust proof.

**LIGHTING.** In any community where it is desired to use the playgrounds in the evening, some method of lighting the grounds is essential. Experience has shown that the greatest attendance will likely be after supper, especially during the summer months. Lighting also does away with the moral danger which too frequently arises from an unlighted playground.

**FENCING.** It is important that the playground be fenced in order to keep out the vicious element and to protect the apparatus and smaller children. Parents will oppose the playground if their children do not receive the same protection there that they do at home. Fencing is the only thing that gives the teachers adequate control of what goes on in the grounds. If apparatus is used, fencing is absolutely necessary to protect not only the apparatus but the neighborhood from trouble with unsupervised gangs after school hours, particularly in the evening. The most attractive fence, and also one of the cheapest that can be put around a playground is one of woven-wire covered with flowering vines. Rambler roses, clematis or honeysuckle will grow rapidly and be very effective. Playground fences average between four and eight feet high.

**SHADE.** Means of shade should be provided on all playgrounds. Trees add greatly to the attractiveness, if properly placed. They may be used effectively to obscure outhouses. It is quite possible to spoil the usefulness of a playground by planting trees in the wrong places. If the first tree is planted on the home base, the second in the pitcher's box, the third in left field, etc., it will not take many trees to spoil the available playing space. The playground needs shade, but it also needs space. The trees should be planted around the edge of the play area. (Illustration 7)

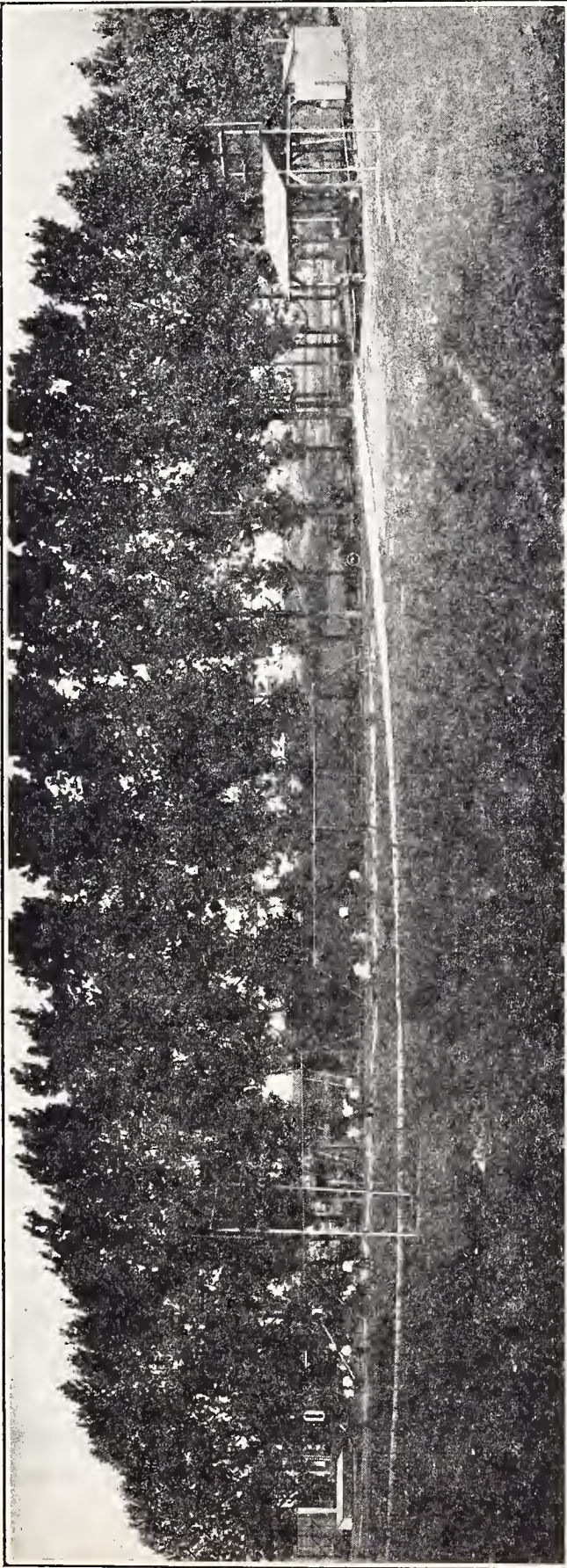


ILLUSTRATION 7. TREES SHOULD BE PLANTED ABOUT THE EDGES OF THE PLAYGROUND.



In large playgrounds trees may be planted around special features, such as the baseball diamond, volley ball and basketball courts, etc., but trees should never be planted at random, without a definite plan for the grounds and a definite purpose for the trees. (Illustration 8)

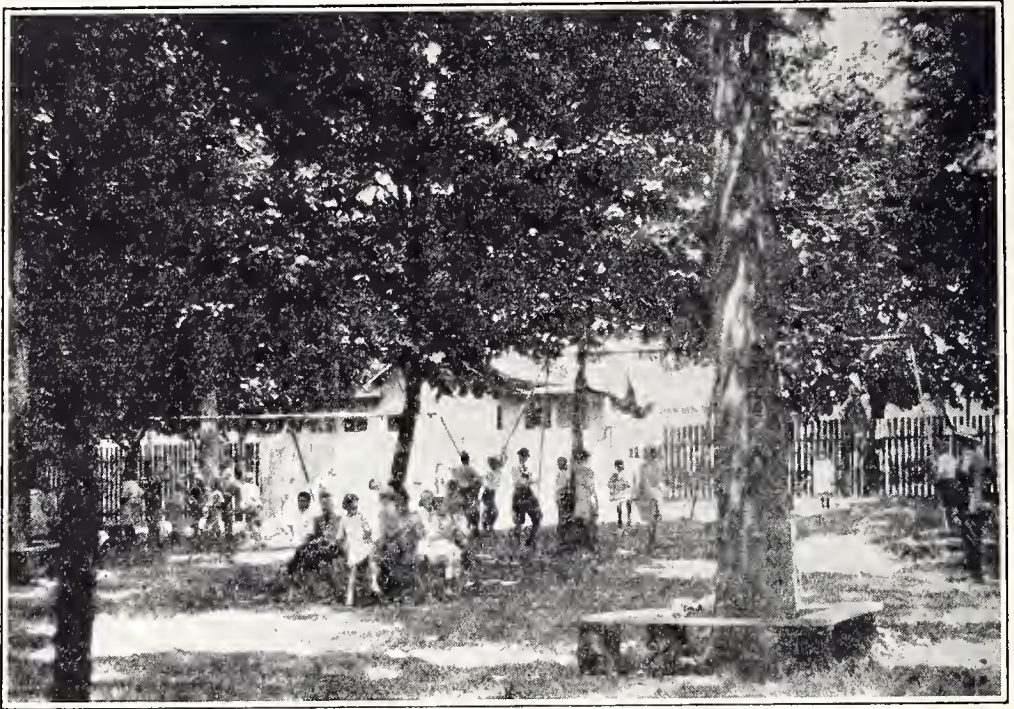


ILLUSTRATION 8. SHADE IS A GREAT ASSET.

The common practice of planting shade trees is from 25 to 40 feet apart. It is a good plan to plant alternately buttonwood and Norway maples. The buttonwood trees will grow rapidly and begin to furnish shade very soon, while the Norway maples will grow more slowly. As soon as the Norway maples develop enough to give sufficient shade, the quicker-growing trees should be cut out and the space be given to slower-growing but more beautiful trees. If this method is followed, the trees should be planted 15 or 20 feet apart, so that they will be 30 or 40 feet apart when the soft trees are cut out.

With shade trees all about the grounds, it is always easy to carry on certain kinds of games no matter how hot the day. It is advisable to have benches and tables around some of the trees, in order that children may sit in the shade when they are tired, when they are eating their lunches, or when engaged in occupational activities or for the story hours. The comfort of shady places for both mothers and children cannot be over-estimated. (Illustration 9)





ILLUSTRATION 9. A STORY-TELLING HOUR IN THE SHADE.

**AESTHETIC SURROUNDINGS.** Playgrounds should be made attractive by planning shrubbery, vines and flowers. This will help to develop in the children appreciation of the beauty in nature and a desire for a beautiful environment. Care should be taken that no part of the play area is sacrificed for elaborate landscaping. (Illustration 10)



ILLUSTRATION 10. A BEAUTIFUL SETTING ADDS TO PLEASURE.

**WATER SUPPLY.** In towns having water systems, one or more bubbling fountains of an *approved* type are essential on the playgrounds. These should be of two sizes, low ones for the very small children and higher ones for the older children and adults. They should be kept clean.

**TOILET FACILITIES.** Too much stress cannot be laid upon the necessity of keeping the toilet facilities in sanitary condition. At school playgrounds, where the toilets are located in the basement of the school building and the playgrounds are used during vacation and in the evenings, some arrangement should be made to shut off access to the remainder of the building. This can be done by placing substantial gates in the passageways leading upstairs. If the playground is not conducted near the school building, sanitary toilet facilities should be provided.

**SHELTER.** A temporary or permanent shelter should be erected. This ought to be large enough to be used for some activities during rainy weather. It is essential where there are not enough trees to provide sufficient shade. A satisfactory pavilion can be built of rough pine at small expense. Strips of burlap can be fixed to drop on the sunny side. Such a shelter will provide a place for quiet games, stories, handwork, etc. The sand box may be placed in this shelter, if so—the box and sand should be exposed to the direct rays of the sun often because of its germ killing properties.

**PLAN AND ARRANGEMENT OF GROUNDS.** In laying out the playgrounds it is advisable to observe several points. Very often not more than half of the possible efficiency of the playgrounds is secured, because the ground has been poorly planned. Plans should be so made as to take advantage of the shade that may be found on the play space, as the comfort of the children and teachers while playing is of chief importance.

Games should be assigned to spaces where they will fit snugly, so that they will not interfere with other games. Baseball and playground baseball, soccer, basketball, volley ball and tennis should be provided with permanent locations, as this is the only way in which the maximum efficiency of the playground can be secured. The baseball field must be far enough from the section occupied by the smaller children to insure their safety from injury by pitched or batted balls. It is best to locate it in the most remote part of playground. The jumping and vaulting pits offer no special problem, as they can be tucked into a corner and still be satisfactory.

The location of the apparatus is important. If the area is small, place the apparatus around the edge of the playground, leaving the center free for games, races and other activities. Place the swings near the fence as this lessens the danger of children being hit.



Economy of supervision can be gained, if the play area is very large, by grouping the apparatus toward the center of the space, with due regard, however, to the separation of the sexes. (Illustration 11)

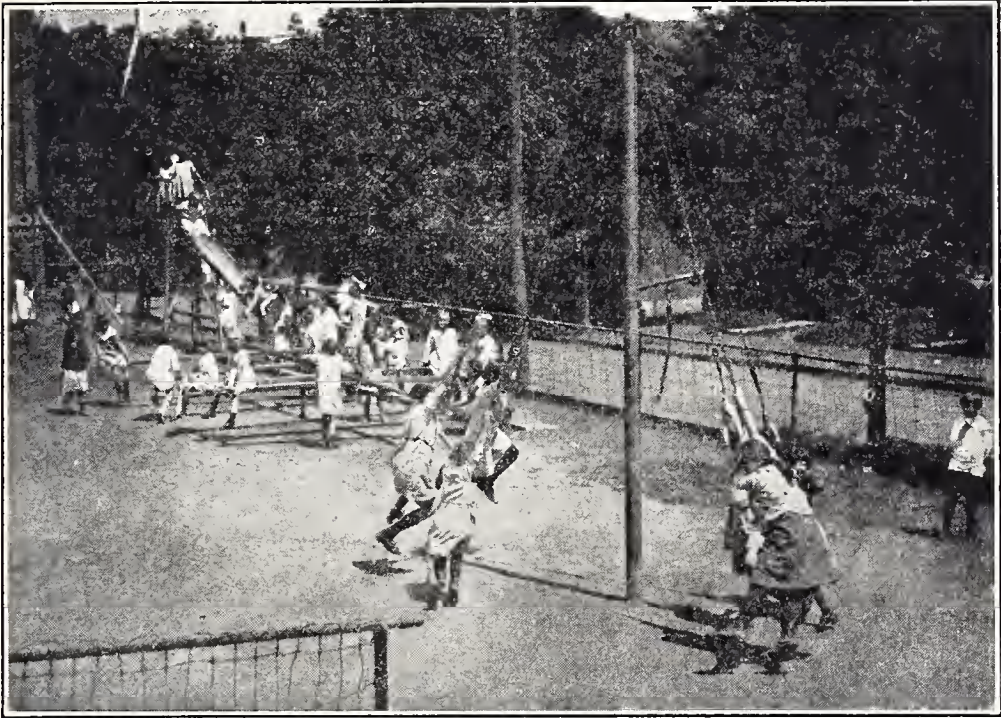


ILLUSTRATION 11. APPARATUS PROPERLY PLACED ON THE PLAYGROUND.



ILLUSTRATION 12. HOME-MADE APPARATUS SHOULD BE SAFE.



Apparatus should be well constructed and properly erected to insure safety to the children. It should be inspected often so that signs of wear may be detected. (Illustration 12)

It is advisable to divide the playground for the older girls from that of the older boys, and the play space for the smaller children from that for the larger ones. This is practical, however, only where the area of the playground is ample to make these divisions and still leave room for all the different types of games. In a small playground the slides, small swings, see-saws, sand boxes and other apparatus for the smaller children should be grouped in one place, and the apparatus for the older children should be grouped in another. This is a help to the person in charge, and will make her work more effective in assisting with the games and play of all. (See suggested plan of play-ground for elementary school page 33).

**EQUIPMENT.** In selecting play material and apparatus for the playground, care should be taken to provide for the smaller children and for activities suitable for the older boys and girls. (Illustration 13)



ILLUSTRATION 13. SWINGING IS A NECESSARY EXPERIENCE OF CHILDHOOD.

The following is recommended as suitable playground equipment and play supplies.

### *Play Supplies*

For the small playground:

Volley balls—at least 2—1 additional for each 100 pupils  
 Playground baseballs—12, at least 4 bats, 1 additional for each 25 pupils  
 Soft rubber balls—6  
 Tether balls—2, 6 sets  
 Jumping standards—1  
 Volley ball standards, portable (jumping standards can be used) and nets  
 Indian Clubs—3 pairs, 1½ lbs., wooden  
 Wands—4  
 Dumb-bells—3 pairs, 1½lb., wooden  
 Bean bags—12  
 Jumping ropes—2, 20 ft.  
 Jumping ropes—6, 8 ft.  
 Croquet set  
 Quoits  
 Paddle tennis, racquets and balls  
 Tennis net, racquets and balls  
 Stop watch—1  
 Measuring tape, steel, 50 ft.

Additional supplies for the large playground:

Soccer footballs—1  
 Regulation baseballs—6  
 Regulation baseball bats—6  
 Medicine balls—2, 4 lb.  
 Basketballs—2

### *Playground equipment*

Sand boxes—2, 1 additional for each 25 pupils  
 Portable slide—1, 1 additional for each 50 pupils  
 Giant strides—1  
 See-saws—3 to 6  
 Wading pool  
 Tennis posts  
 Swings—one set 9 ft. high—other set 12 ft.  
 Bean bag boards  
 Basketball back stops  
 Horizontal bars—2, 6 different heights  
 Weighing scales with measuring rod  
 Boxes for play material—3  
 Victrola and suitable records

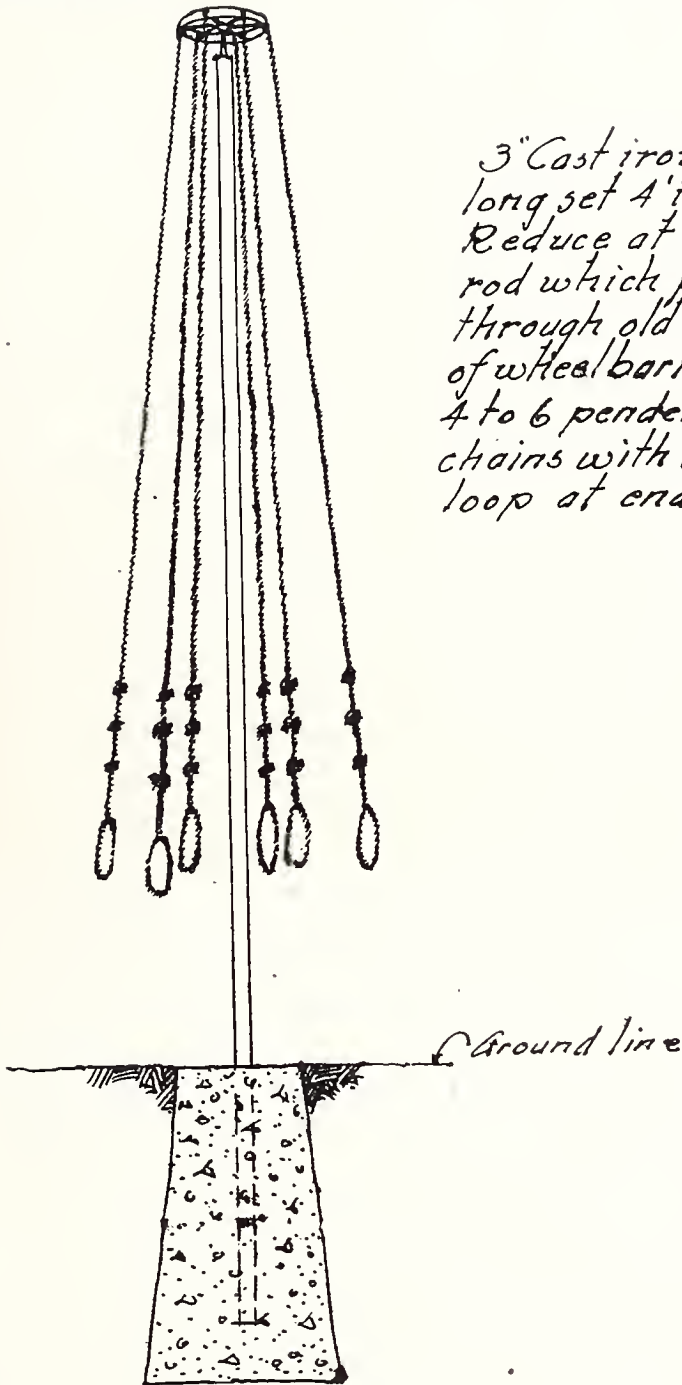
HOME-MADE PLAYGROUND EQUIPMENT. It is not necessary to spend large sums of money on playground equipment. It is much more desirable to spend the money on adequate supervision than on expensive apparatus. Certain pieces of apparatus can be made by pupils in the manual training department or by local labor. (Illustration 14)



ILLUSTRATION 14. HOME-MADE APPARATUS IS EFFICIENT.



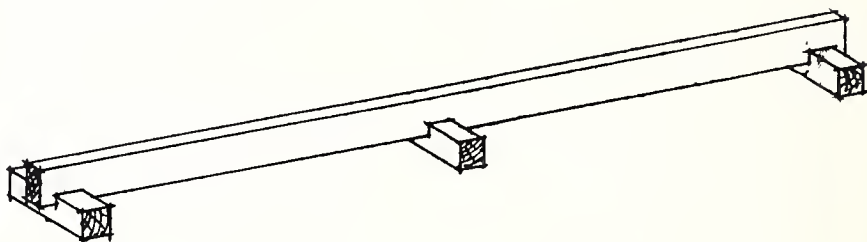
The following sketches and specifications will be of assistance in constructing apparatus.



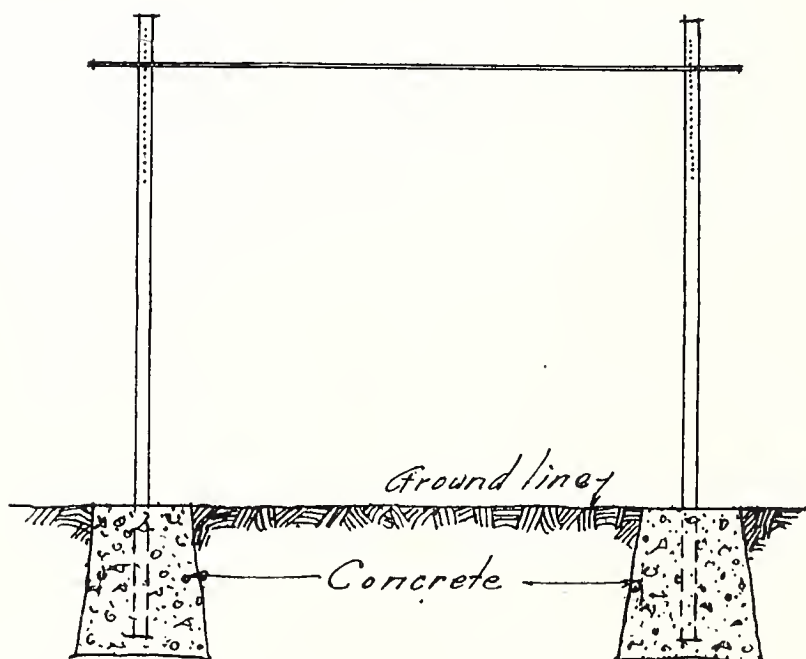
3" Cast iron pipe 20' long set 4' in concrete. Reduce at top to  $\frac{1}{2}$ " rod which projects 6" through old iron wheel of wheelbarrow. Carries 4 to 6 pendent ropes or chains with knots and loop at end.

## CIRCLE SWING OR GIANT STRIDE.

*Piece of 2"x4"x12' plank set in three 4"x4"x12" blocks, mortised and spiked*

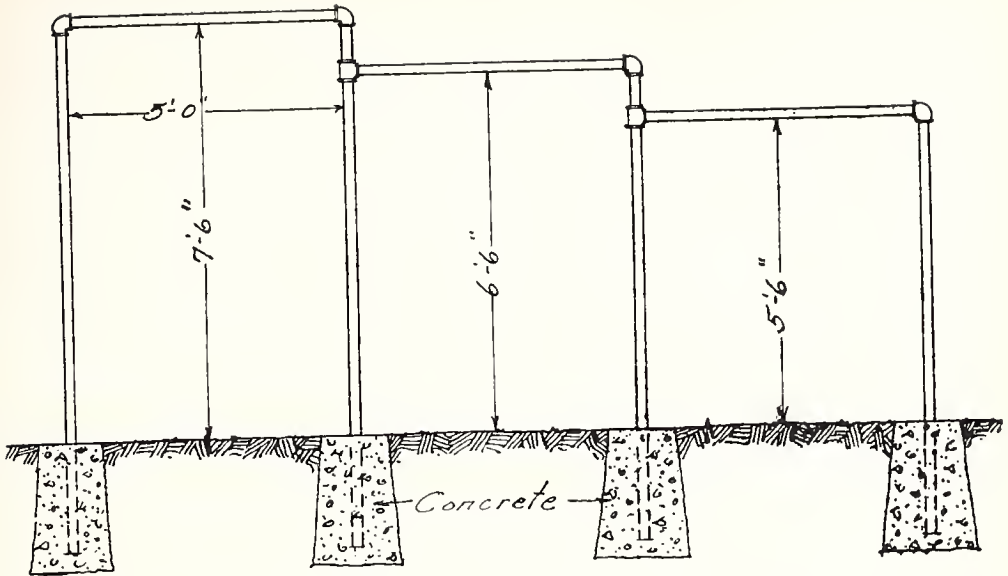


## BALANCE BEAM



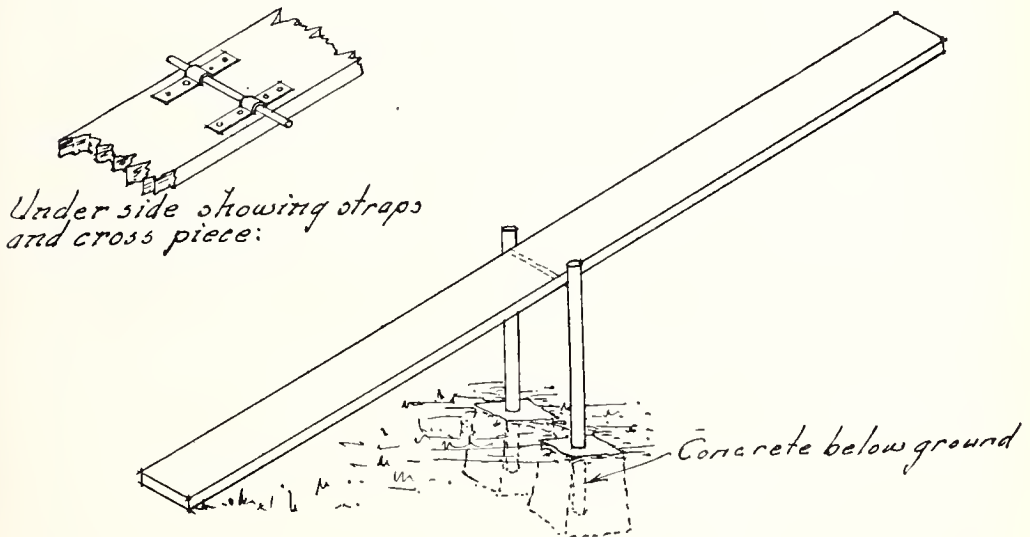
*2 pieces 2"x5" cast iron pipe set 2' in concrete and 8' apart. Holes bored every inch to take large finish nail on which cross piece of bamboo fish pole is to rest. Dig up ground beneath for soft landing plate.*

## JUMP STANDARDS.



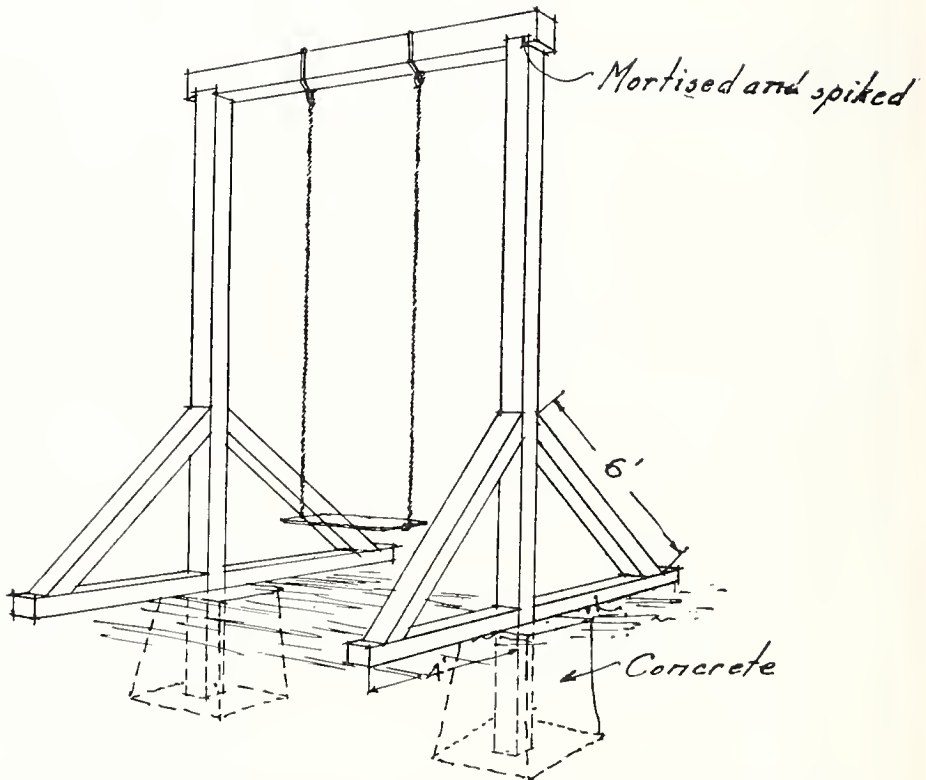
Uprights are 2" cast iron pipe set in 2' of concrete. Cross pieces are 1" steel or hickory bars. Required, 4 uprights: 1, 7'-6"; 1, 6'-6"; 2 short pieces, each 11" long: 3 cross bars: 4 elbows 2 tees.

## HORIZONTAL BARS & CLIMBING POLES.



1 Plank 2"x12"x14' planed. 2 uprights 3"x5' set 2' in concrete 2 tees, 1 cross piece cast iron pipe 2"x15" 2 wrought iron straps 1"x12" to hold plank in place.

## SEE-SAW OR TEETER TOTTER.



2 pieces 6"x6"x13' set 3' in concrete. 1 cross piece 6"x6"x6' mortised and spiked across top. 4 pieces 6"x6"x6' and 4 pieces 6"x6"x4' for braces. Swing suspended by strap iron or bolt and washer and ring. Cross piece 10' above ground.

## SWING.

PLAY COURTS. Provision should be made for the playing of organized group games. The following diagrams give the regulation sizes for play fields.

### BASEBALL

Regulation baseball should be used only in large grounds. The figures given in the diagram are those approved by the major leagues' joint-rules committee, for boys under 16 years of age.

Elementary school: Girls' diamond, 45 feet between bases

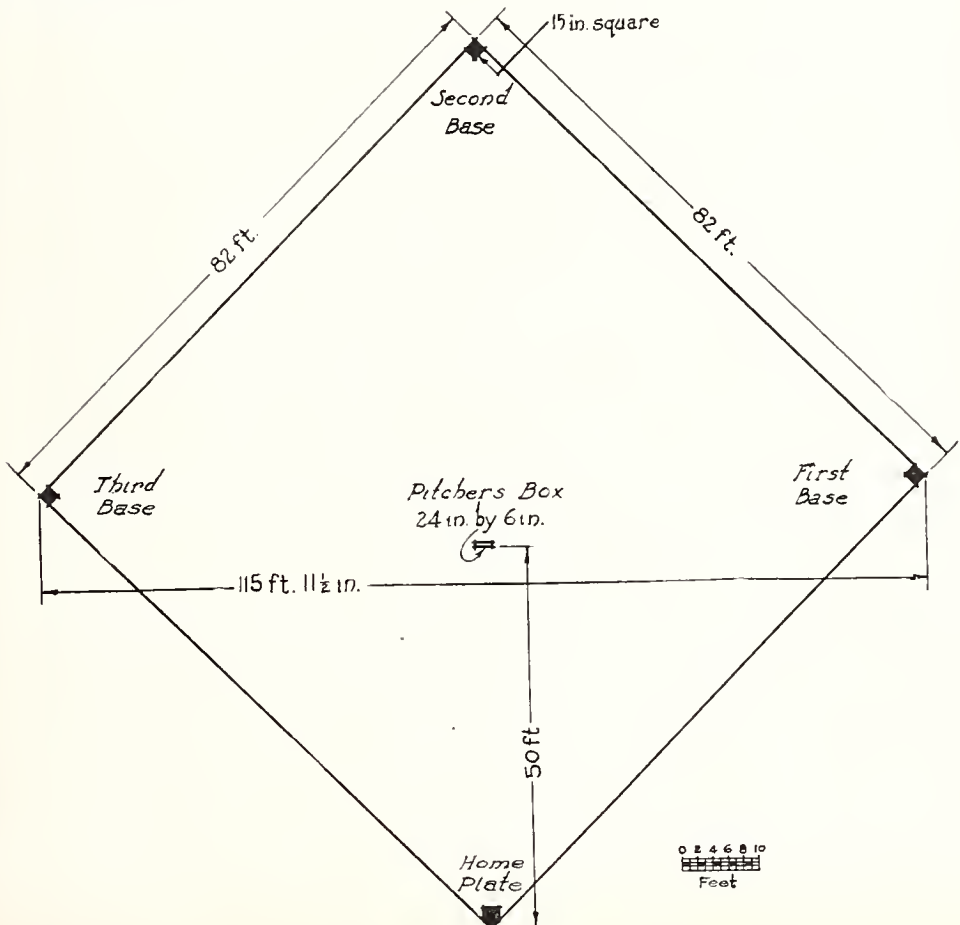
Boys' diamond, 45 feet to 60 feet between bases

High school: Girls' diamond, 45 feet to 60 feet between bases

Boys' diamond, 60 feet to 82 feet between bases

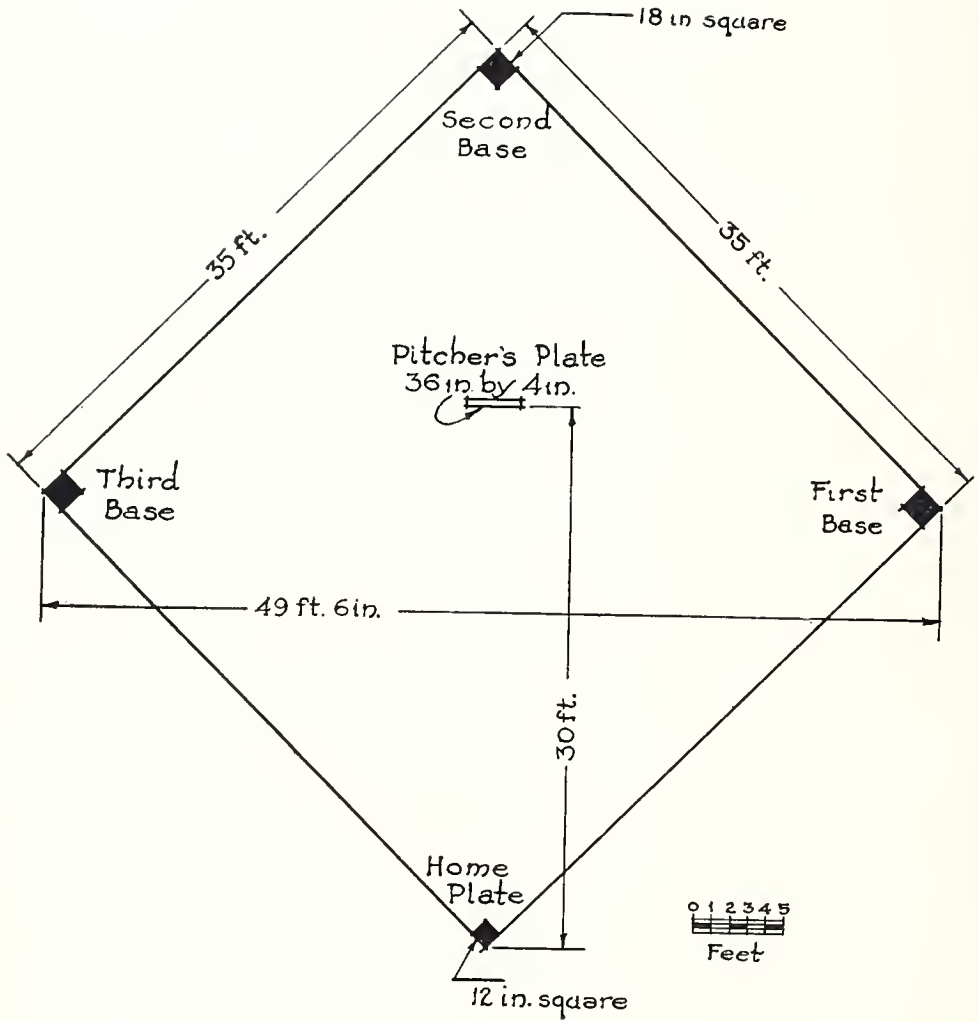
Regulation diamond 90 feet between bases

The additional space required beyond the diamond is approximately determined by the arc of a circle with the radius equal to three times the distance between the bases and with center at home plate. The order of preference for the position of home plate is first, northeast corner; second, southeast corner; third, northwest corner; fourth, southwest corner (to be avoided).



## PLAYGROUND BASEBALL

Playground baseball should be used on small playgrounds.





## BASKETBALL

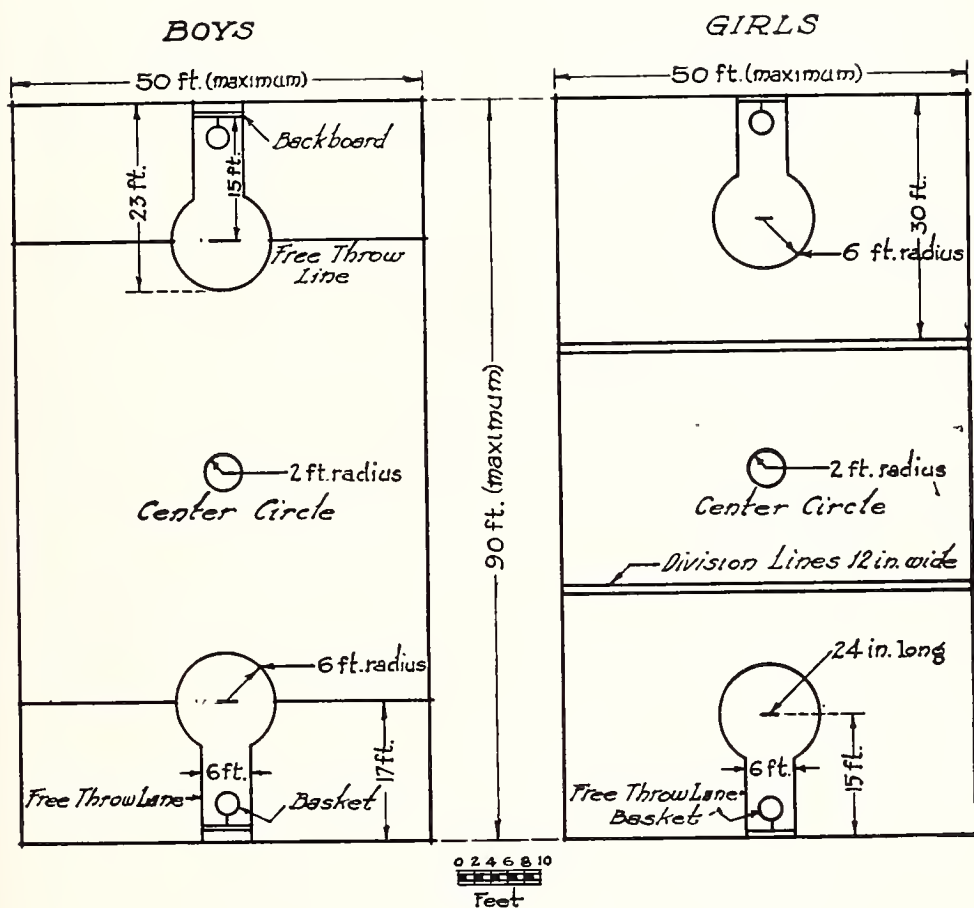
Elementary school: Size for both boys and girls, 50 feet by 35 feet.

High School: Size for both boys and girls, 60 feet by 40 feet.

Minimum size for girls: 50 feet by 20 feet.

Regulation size for girls: 75 feet by 35 feet.

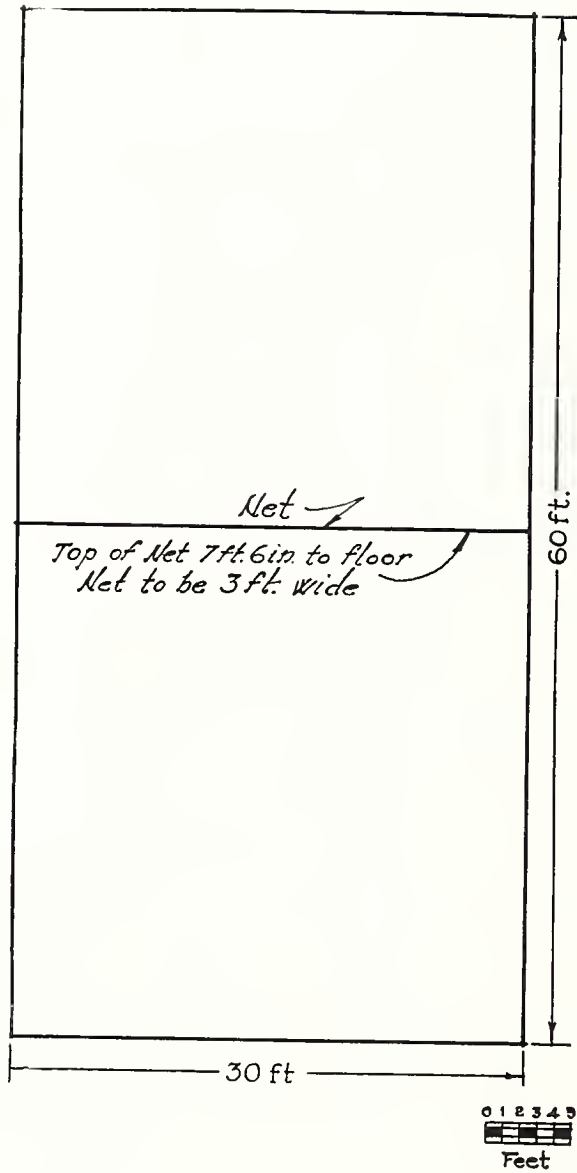
Minimum size for boys: 60 feet by 35 feet.



## VOLLEY BALL COURT

Smaller areas may be used.

Courts should run north and south.



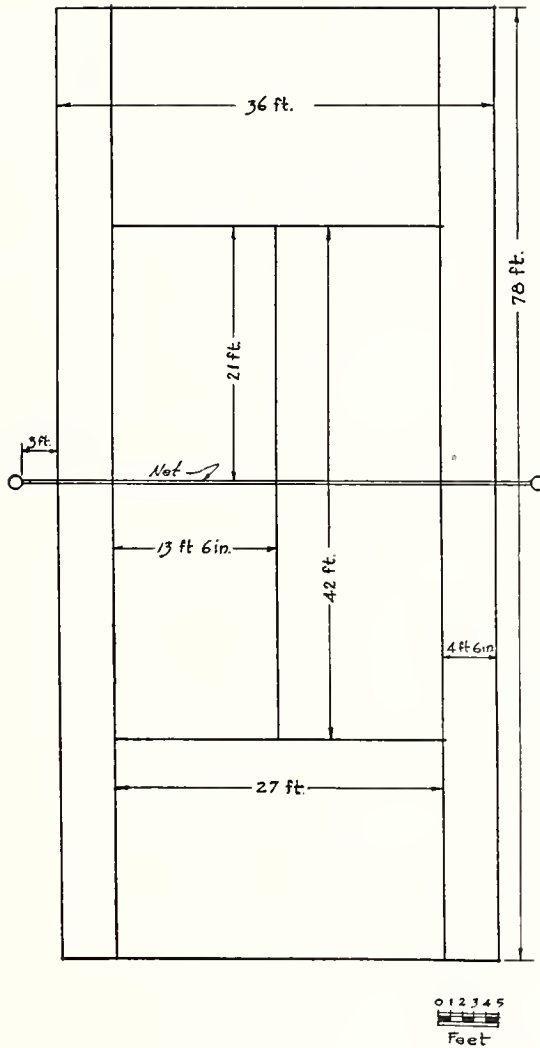
## TENNIS COURTS

The following specifications are exclusive of side and end zones.

End zones should be at least 12 feet wide.

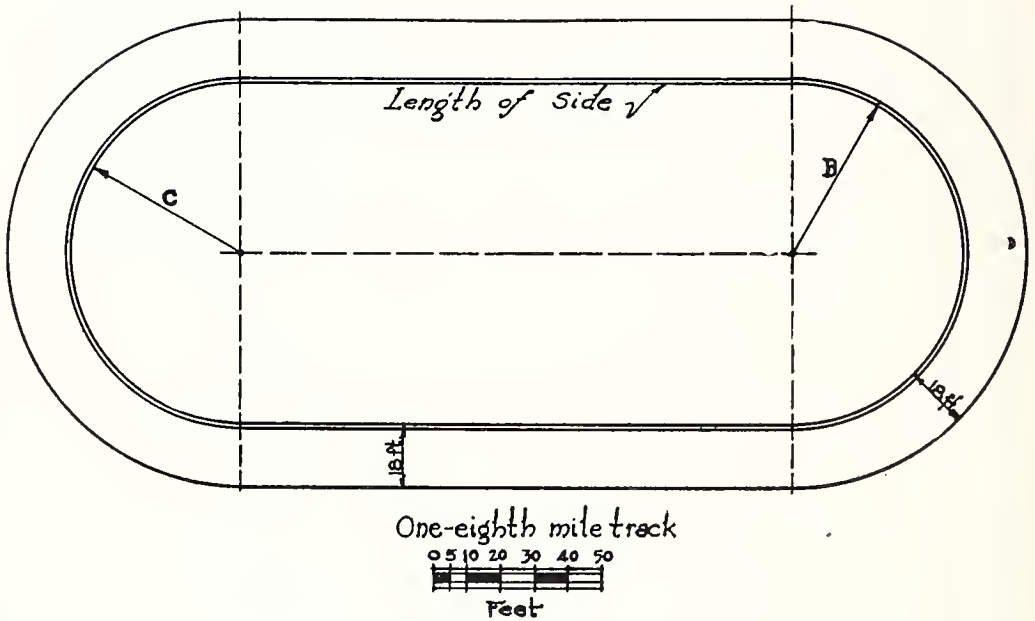
Side zones: As shown in the diagram the posts for holding the net are placed 3 feet from the side lines of the court. When several courts are placed in a row an allowance of 1 foot should be made between the posts of adjacent courts. Between the end courts and the fence a distance of at least 12 feet should be allowed.

Tennis courts should run north and south. They should be graded for rapid drainage.



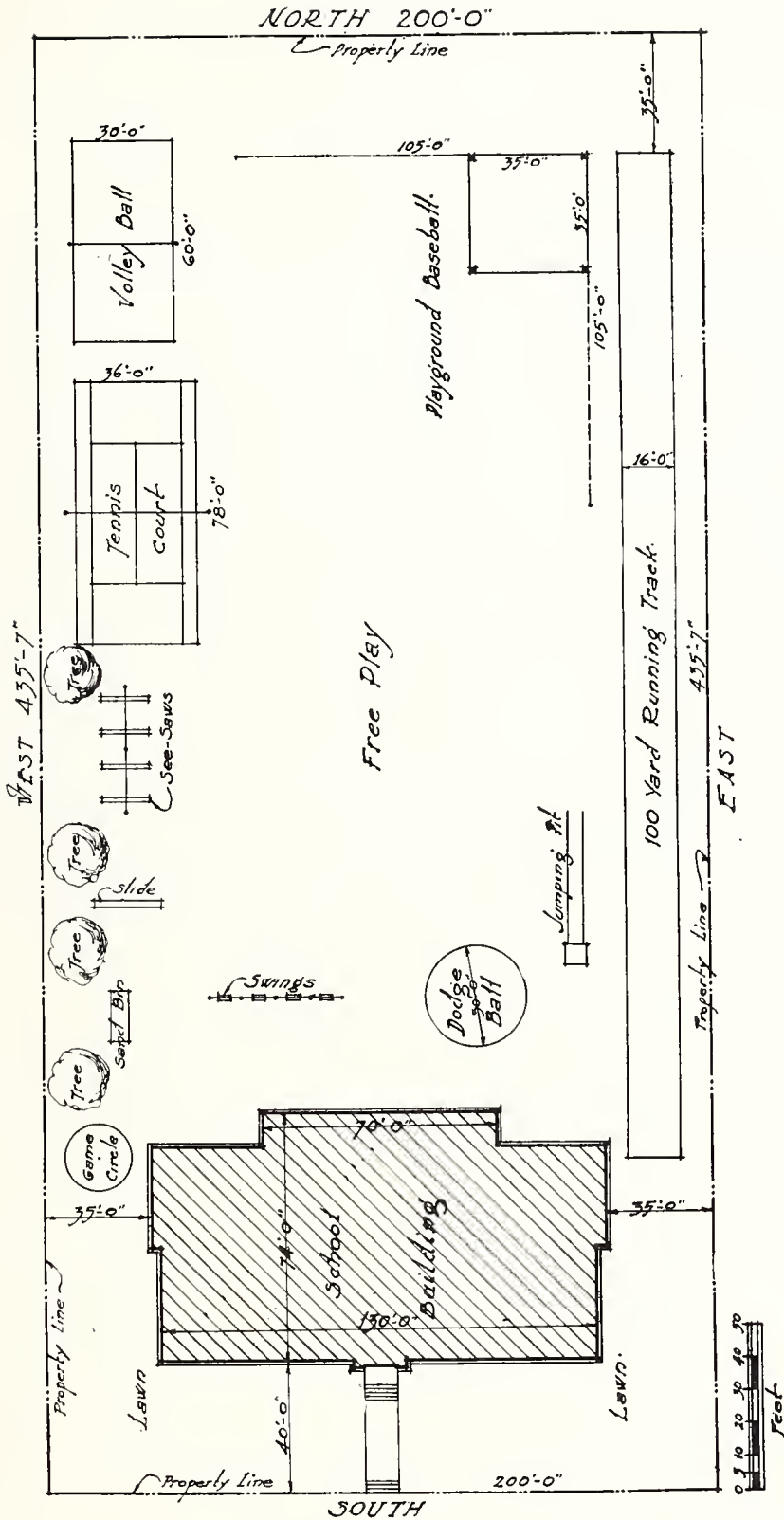


## RUNNING TRACK

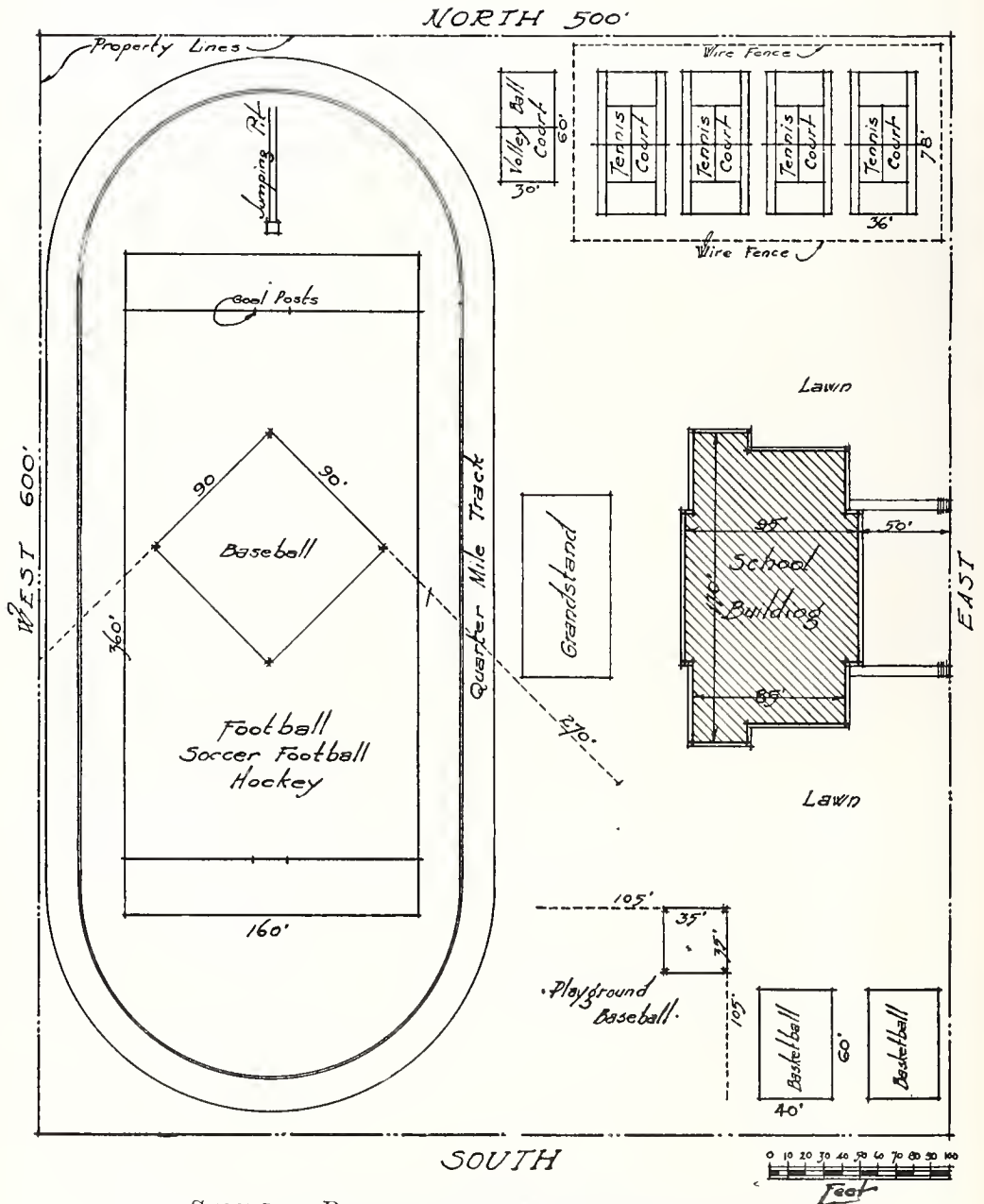


## RUNNING TRACK DIMENSIONS

Miles	Total Length	Length of Side	Circum' of End	B-End Radius	C-Curb Radius
1	5280ft.	1320ft.	2640ft.	420ft. 2 1/32in.	419ft. 2in.
1/2	2640ft.	660ft.	1320ft.	210ft. 1 1/64in.	209ft. 1in.
1/4	1320ft.	330ft.	660ft.	105ft. 1/2 in.	104ft. 1/2 in.
1/8	660ft.	165ft.	330ft.	52ft. 6 1/4 in.	51ft. 6 1/4 in.



SUGGESTED PLAN OF APPARATUS AND GAME COURTS FOR PLAYGROUND, 2 ACRE PLOT.



SUGGESTED PLAN FOR A HIGH SCHOOL ATHLETIC FIELD.  
PLOT APPROXIMATELY  $6\frac{3}{4}$  ACRES.



**SUPERVISION.** The attempt should never be made to conduct a playground without the services of trained teachers, or to conduct a system of playgrounds without a competent supervisor to oversee and direct the entire movement. Where playgrounds have been established with the idea that all that is necessary is a place to play and things to play with, the experiment has quickly failed. Play centers



ILLUSTRATION 15. THE DESIRE TO WADE IS UNIVERSAL.

conducted in this way soon become centers for the spread of evil and crime, and defeat the aims for which they were established. They become a menace to the neighborhood.

A playground director is a necessary factor as there will be no play that is worth while, either on the school playgrounds or city playground, unless there is a teacher or director in charge. In the larger playgrounds there should be a woman in charge of the smaller children and one in charge of the older girls; a man in charge of the larger boys, and a trained director to supervise all of the playgrounds.

The director and teachers should work out carefully a program of games and other activities for daily use upon the playground and then follow it as closely as possible. This will tend to prevent confusion and to give a definite time for certain activities. By this method children of all ages will receive attention.

**PROGRAMS.** It is not advisable to have a fixed and unchangeable program. Every playground, however, must have a program which

should be elastic and suited to the prevailing conditions; these may be local, more or less permanent conditions, or they may be temporary such as rain, extremes in temperature, and the like.

These conditions govern the number and kinds of songs, games, team plays, and other activities.

It is not wise to follow a program with unreasonable exactness. If, at the end of a specified period, the children are engaged in an interesting activity, do not make a change until later. There should be a sufficient variety of activities morning and afternoon to promote the interest of the children. Programs should be arranged to fit the ages of the children who predominate at a given time. If younger children predominate in the morning, the program should be arranged largely for them. The opening exercises, songs, talks, stories, and the like should be arranged so that they will appeal to both younger and older pupils.

As a guide—two programs are outlined, one being designed for a morning period in which younger children predominate, the other for an afternoon session attended largely by older boys and girls.

### MORNING PROGRAM

Suggested program for period in which younger children predominate.

The grounds should be cleaned and opened by the janitor, or other caretaker, at 8:30.

8:30—9:00—*Free play, with janitor or caretaker in charge.*

9:00—9:30—*Morning exercises made up of songs and stories.*

Hymn—"Father We Thank Thee," "Morning Hymn," "America," or "America the Beautiful." Flag Salute. This may be followed by songs relating to season or to weather. For example, "Autumn Winds," "Come Little Leaves," "Little Pussy Willow," "Good Morning Merry Sunshine," "Two Little Roses," "The Seed and the Winds," "The Rainbow Fairies," etc. These songs are usually found in the music books used in the public schools. Follow this with stories or rhymes, finger plays and sense games.

9:30—10:00—*Distribute play materials and inspect safety of all apparatus.*

Under this heading would come bean bags, ring toss, quoits, materials used in the sand boxes, and books. This should be a time for free play under the supervision of the instructor.

10:00—10:30—*Marching.*

For younger children use simple marching and rhythmic exercises, imitation plays such as "Flying Birds," skipping, etc. This should be followed by games for younger children, such as Drop the Handkerchief, Fox and Squirrel, Squat Tag, Slap Jack, and singing games such as Did you Ever See a Lassie, Farmer in the Dell, I See You, How D'Ye Do My Partner, etc. Music and descriptions of these may be found in the Pennsylvania State Course of Study in School Health, Physical Education, Grades I—VIII.

During this time older children should be playing on apparatus or with ring toss, or engaged in basketball throwing, all under the direction of a leader.

10:30—11:00—*Games of higher organization.*

These include Corner Ball, Prisoner's Base, etc. During this time the younger children should be engaged in free play in the sand boxes, or in simple apparatus such as see-saws and swings.

Folk Dances such as I See You, Shoemaker's Dance, Gustaf's Skoal; or *directed class work on apparatus* such as the horizontal bar, or giant stride should be used.

Very young children should be sent home early for lunch.

11:00—12:00—*Occupational work conducted in groups.*

The younger children should be separated from the older, and a leader placed in charge of each group. The younger children may be started on paper construction work, simple exercises in paper folding, or simple winding work in raffia. The older group should be constructing baskets, making hammocks, working at chair caning, or similar industries.

12:00—12:30—*Free play period.*

In a playground used mainly by older children a man teacher should be in charge of the older group and the work must be more advanced. Where apparatus is in use, strict attention must be given to proper and correct exercises. The proper use of such apparatus as the giant stride, ladders, and horizontal bars should be taught. The ropes of the giant stride should not be tied together for swings, nor should children be allowed to sit on the ladders.



Track and field work in its various forms should be taught. This may well include the dashes, running broad and high jump, standing broad and high jump, hop-step-and-jump, triple standing jump, basketball far throw, relay races, and mass competition of various types as suggested in the state syllabus in physical education. Marching may be taught as well as free exercises.

## AFTERNOON PROGRAM

Suggested program for period in which older boys and girls predominate.

1:30—2:00—*Songs of a patriotic nature.*

Songs and stories emphasizing ideals. In this list should be "America," Flag Salute, "The Flag and the Eagle," "Freedom and Peace," etc. (See school music books).

This singing should be followed by a story, preferably of the hero type, or of some of the famous characters in history.

2:00—2:30—*Free play.*

This time should be under the supervision of the teachers.

2:30—3:00—*Track and field work.*

Dashes of varying lengths, relays, obstacle races. At this time if younger children are present they should be engaged in games of skill, like quoits, ring toss, all-up relays, and the like.

3:00—3:30—*Team games of high organization for girls.*

In this list fall captain ball, volley ball, dodge ball. During this time the boys may be playing quoits, or practicing stunts, and the younger children are engaged with the simple apparatus such as swings, giant stride, see-saws.

3:30—4:00—*Team games of high organization for boys.*

In this list should be baseball, battle ball, various types of dodge ball, or playground baseball, volley ball, and the like.

The girls, in the meantime, may be playing ring toss, or various kinds of bean bag games, or other games requiring skill but little space. The girls should be under the leadership of one of their own group and playing one of the games which their instructors have previously taught them.

4:00—5:00—*Occupational work, team games, folk dances.*

Occupations may include cardboard cutting, scrap book making, picture grouping, relating perhaps to great men or great events in history, or to various health topics. The boys may be practicing knife work such as kite making, picture frame carving, and the like.

The team games used should be organized games such as, prisoner's base, corner ball, and so on.

The folk dances may include such dances as Bleking, Cseh bogar, Seven Jumps, Ox Dansen, Virginia Reel, Pop Goes the Weasel.



ILLUSTRATION 16. BABY PARADES MAKE A HIT.

**SPECIAL PROGRAMS.** A series of patriotic songs and games, or possibly a review of the work of the preceding days, should be presented in a special program one afternoon a week. These may include activities like saluting the flag, marching, songs, folk dancing, especially those applicable to the nationality which predominates in the neighborhood. They should, so far as possible, become community affairs to which the parents and representatives of civic organizations are invited. (Illustration 16)

A special program may be arranged for the closing day of the playground. This may include a well selected demonstration of activities, as well as games and contests.

**WINTER SPORTS.** So far as possible, playgrounds should be used in winter as well as summer. Certain types of sports and athletics lend themselves very well to cold weather use, soccer and field hockey being particularly adaptable. Each of these games may be played by either boys or girls.

In many parts of Pennsylvania the climate is such that winter sports such as skating, skiing, snowshoeing, tobogganning, etc., may be carried on. The flooding of level playground areas, converting them into skating places, should be done wherever possible. This in its turn opens up the possibilities of competition in ice hockey for the younger group, and curling, fancy skating, and the like, for older people.

Special preparation of a skating surface is ordinarily necessary in order to secure good ice. The usual procedure is to build an embankment around an area that is level and smooth. This should be made either by two inch by twelve inch plank, reinforced by earth, or sometimes by earth alone. After the ground is frozen, and when the temperature is at least eight degrees below the freezing point, an ice surface is built up by throwing the stream from a hose into the air to such an altitude that it falls to the ground in a finely divided spray which freezes almost as soon as it strikes the ground. This should be continued until the ice reaches a thickness of approximately one inch, care being taken that puddles are not permitted to form at any time, as these are likely to cause shell ice. After the surface becomes cut up by skating, it can be renewed by a repetition of the spraying. At this time a film of ice only sufficient to smooth the surface is needed. Often this spraying can be secured through cooperation with local fire companies.

**ADMINISTRATION.** The establishment of a playground in a new field always presents serious problems for solution. Local conditions, individual prejudices, opposition due to ignorance, and the usual caution against spending money on new enterprises are obstacles which must be overcome before the playground can be started. In order to do its most efficient work, the movement must have the backing and support of the municipal organizations. As a rule, however, this cannot be secured until the usefulness of the playground has been demonstrated. Usually the burden of the demonstration falls on a few public-spirited individuals in the community, but after its worth has been proved the city government takes it over



and supports it wholly or in part by appropriations from the public treasury. Several different plans of management of playgrounds have been followed, chief among which are:

*The Recreation Commission.* The Recreation Commission is organized for the purpose of placing all recreation outside of school hours in charge of a selected group. The members of the commission may be selected in the same manner as the school board or they may be appointed by the mayor. This plan has worked effectively in large cities.

*Playground Association.* The directors of this association usually represent other organizations of the community including men's and women's clubs. The interest of this group in play and recreation is genuine. The main difficulty in promoting recreation work through this type of organization is the lack of taxing power, consequently the amount and kind of work must depend upon the generosity of the people. When the value of recreation work has been demonstrated the local government usually takes over the entire program.

*Park Board.* It is sometimes an advantage to have a Park Board in charge of recreation because they have complete control of public parks. On the other hand, the members of this board usually have had neither training nor experience in social and educational problems and often do not appreciate the value of properly organized recreation. Their interest in recreation may be secondary to other projects and perhaps in their efforts to preserve beautiful parks, with places for walking and driving, they may actually discourage the idea of children playing in the parks. Politics and frequent changes in administration too often influence the effectiveness and growth of the recreational program.

*Board of Education.* Playground work is being recognized as a definite part of the educational program. Hence, progressive communities are placing this work under the direction of the Board of Education. This has several advantages; namely, the school board has the confidence and support of the public; usually it cooperates with other civic boards with little friction; it is a permanent organization, the members of which represent the best type of citizens of the community; this board may appropriate funds for the maintenance and operation of playgrounds; the school district already owns playground space and modern schools are particularly well equipped to carry on this program. Schools are centrally located for the child population and no other agency has as close a relationship to the children and neighborhood as the school.

It is true that in some localities it is impossible to use school grounds because of limited space—particularly, for group games of high organization. Where such conditions exist, additional grounds must be secured.

If playground work is conducted on the school grounds certain rooms should be open for use as toilet rooms, store rooms for play equipment and one or two rooms for use during rainy weather.

This phase of education means that a part of the school funds are used for administering a recreation program. Since all of the funds come from the same source, it is really more economical in the end because there is no duplication of expenditure as is often the case where other boards have charge of the recreation. Then, too, the school grounds are in use throughout the day and throughout the whole year.

The work of the above named boards too often duplicates and supplements the work of the school. This is avoided if the school authorities have charge of the whole program.

One of the chief essentials in carrying out this program is the selection of a trained, competent leader and well qualified assistants. Many communities employ the director of physical education on a twelve months basis for this work so that the educational program may be carried out consistently during the summer.

Cost. After the playground area is secured, graded and equipped the annual cost of maintenance is slight compared to the benefits derived. The sum of twenty-five cents per child per year, using the total public school enrollment as a basis of computation, ordinarily ought to provide for replacing worn-out play material, make repairs on equipment and furnish supervision of the playground. It is doubtful, however, if an adequate playground can be maintained by any community for less than \$300. per year. This would allow, roughly, \$250. for the cost of supervision for two months and \$50. for play material and repairs. Larger communities will find no difficulty in maintaining their playgrounds for this per capita sum.

USE OF PLAYGROUNDS DURING SCHOOL YEAR. The playground, located at the school, should be available for use for play the whole year. Whether the playground apparatus is owned and controlled by the Board of Education or other authorities, arrangements should be made by which the school will have the use of it during the school day. The care of the apparatus should be a part of the duties of the school janitor.

The periods at which the grounds and apparatus will be used during the school day under the supervision of the teachers will be, before and after school hours, the noon-hour and the physical educa-



tion periods, especially the recess period. The activities at this time should be so organized that every child has desire and opportunity for safe, vigorous play suited to his age, strength and interests.

The recess period is primarily designed for play—a period of relief from desk work and conscious mental effort. But a recess period which simply turns pupils out into the school yard, does not begin to accomplish the desired results for the majority of the pupils. The more virile and aggressive children will monopolize the apparatus—and the most desirable play space—while the more timid and less robust children, those who need the physical activity most, will stand about in groups, trying to keep out of the way, or hopelessly waiting for the turn which never comes. Many a teacher and principal has deplored this condition, but felt helpless to remedy it. The practice of having the teachers merely present in the yard or playground for so-called supervision, does not accomplish the desired results. This kind of supervision usually amounts to little more than policing. It does reduce the liability to accident, but does not appreciably help to secure activity for all. The only satisfactory solution is the thorough organization of the recess period.

Since even the best equipped playground does not have enough apparatus for all pupils to use at one time, it is advisable to assign the use of the apparatus to different classes or groups on different days, rotating the schedule so that each class or group has its turn.



ILLUSTRATION 17. PLAY ON APPARATUS SHOULD BE SUPERVISED.



The teacher of the class assigned should supervise the apparatus on that day. This plan will assure the supervision which is so essential if accidents are to be avoided. (Illustration 17)

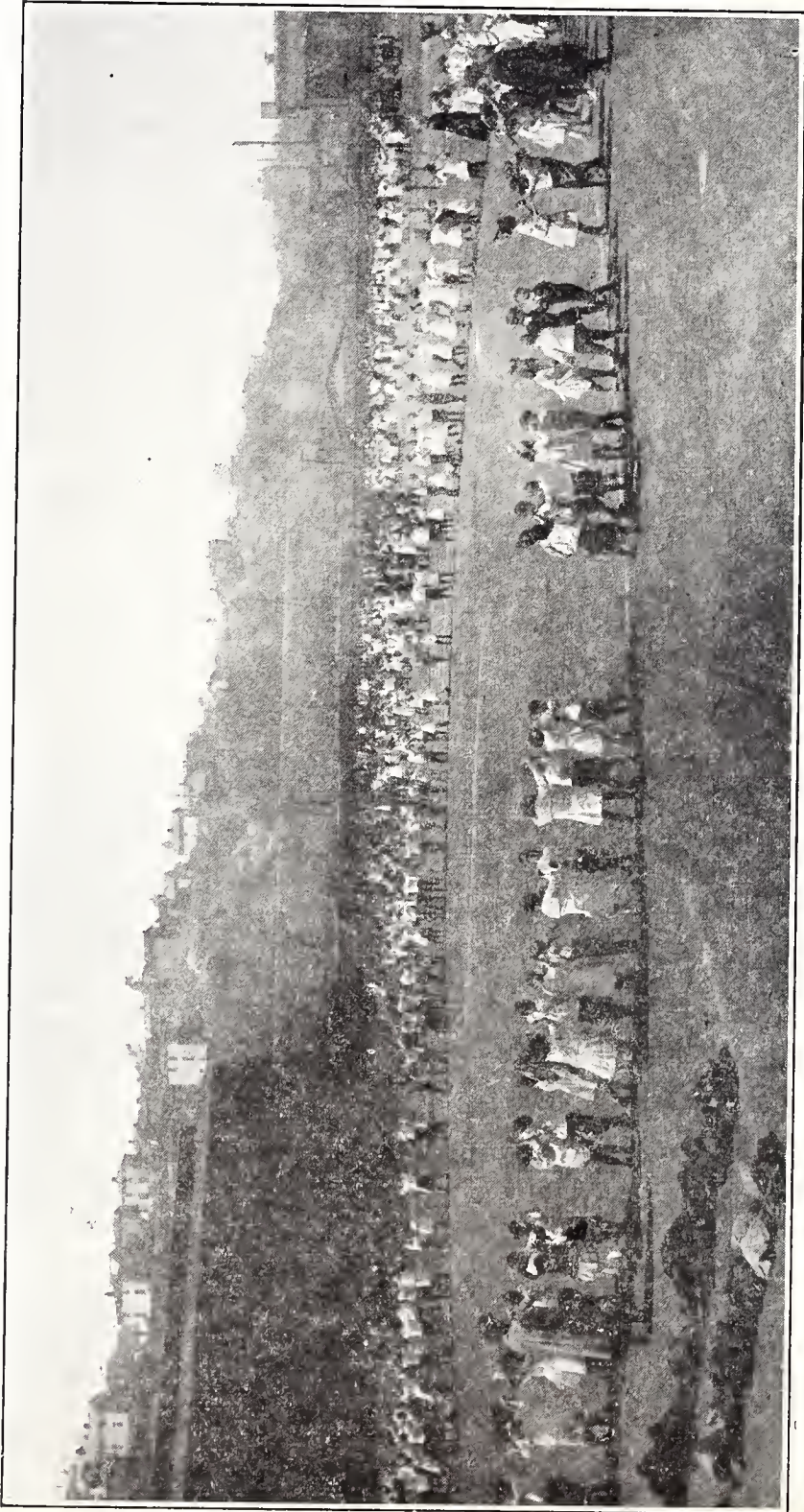


ILLUSTRATION 18. DIVISION OF THE AREA AND SUPERVISION BY TEACHERS ADD GREATLY TO THE USE AND VALUE OF PLAYGROUNDS.

Where the grounds are large enough for all classes to be playing at once, a definite place on the grounds should be assigned to each class. Particularly desirable sections of the playground, such as shade in hot weather, special play areas like the playground baseball diamond, or soccer football field should be assigned to different groups in rotation. In cases where the grounds are very small, assign the play space to as many children as can be comfortably accommodated one day, to other classes the next, and so on, so that all are assured activity periods at some time. Those who cannot be provided with space for team games, can have a free play period. Each teacher should take charge of her own class, whether it is assigned to apparatus or to definite play space. The seventh and eighth grade boys should be combined under the teacher of either grade, and the girls under the other. The same arrangement may profitably be made for grades five and six. (Illustration 18)

The games should be those taught during the physical education period. The recess period is not long enough for the teacher to teach a new game, nor is the school ground filled with playing children quiet enough for the teacher to make any explanations. It is much better to use some well known game, and play it vigorously. Much time will be saved if the game to be played is decided upon before leaving the classroom. After a number of games have been learned it is a good plan occasionally to allow the children to choose the game for the day. Games\* should be chosen in which all can participate actively—rather than those in which one or two perform, while the rest stand still.

If teachers will stop the activities a few minutes before recess ends, allow the children to wash their hands, get a drink, then form lines for marching to the classroom, the pupils will settle down to classroom work much more quickly and quietly than if the playing continues until the close of recess.

When weather conditions prevent following the schedule in the morning, the activities scheduled can often be carried out in the afternoon.

Many schools have found it practical to use recess periods for running off contests, especially in districts where the children cannot remain after school to take part, because of the necessity for catching the only train which will take them home, meeting transportation busses, etc. If the rather short recess time is to be effectively used for contests, schedules should be worked out carefully, and posted sufficiently in advance to allow for all necessary preparation.

On stormy days, the teacher will find indoor recess very trying if it is unorganized. If the teacher will lead her class in some quiet

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\*For description of suitable games, see Course of Study in Physical Education, Grades I-VIII.



indoor game, the natural irritability which such a day usually produces will be greatly reduced, and the remaining periods of the day will be approached in a much happier state of mind by both pupil and teacher.

## PLAY IN RURAL SCHOOLS

Provision for play as a part of the school life of children in rural communities is probably more neglected than in any other place. Evidence of this fact is manifest in the kind and size of sites selected for rural schools and in the lack of development of the playground.

The usual excuse offered that rural boys and girls do not need to play because they get enough exercise shows a false understanding of the true value of play and of the difference between play and exercise. Properly directed play means more than physical exercise. The social and moral values are especially important to rural children because of the isolation of many rural families and the distance which children have to travel in order to find playmates. This means that the greatest opportunity for group play suited to the age interests of the children is at the school.

Boards of school directors in rural communities should provide adequate, attractive and equipped school playgrounds for their children. That such communities are awakening to the need is shown by the number of new consolidated schools that are making this provision.

It is not enough that provision be made for play,—there must also be some one to organize and direct the children in suitable activities. The teacher is the logical person to have charge of this work. The rural teacher has an unusual opportunity to influence character development of the boys and girls through play. It is not only an opportunity, it is a responsibility.

It is essential that county superintendents of schools promote proper play activities through encouragement and assistance to teachers and through the organization of local and county play festivals and field days.

The suggestions given in this manual can be applied to the playground problem in rural communities.

## CONCLUSION

Play is necessary for the normal growth and development of boys and girls. Every community is responsible for providing and maintaining adequate, properly conducted playgrounds. The lessons of right living learned on the playground are fundamental for good citizenship.



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- Sport Library A. G. Spalding

## MANUFACTURERS OF PLAYGROUND APPARATUS ATHLETIC EQUIPMENT AND SUPPLIES

- Chicago Gymnasium Equipment Co., (Playground and Gymnasium Apparatus, Sporting Goods and Kindergarten Supplies) 1040 W. Lake Street, Chicago, Ill.
- Everwear Manufacturing Co., Springfield, Ohio.
- Fred Medart Manufacturing Co., Potomac & De Kalb Sts., St. Louis, Mo.
- Giant Manufacturing Co., Division No. 12, Council Bluffs, Iowa.
- Goldsmith's Sons, P., Cincinnati, Ohio.
- Hill-Standard Manufacturing Co., Anderson, Ind.
- Horace Partridge Company, 75 Hawley St., Boston, Mass. (Manufacturers of athletic supplies and miscellaneous playground equipment other than heavy apparatus).
- Narragansett Machine Co., Pawtucket, R. I.
- Spalding Bros., A. G. Chicopee, Mass.

